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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RODNEY L. ABBA, ROBERT J. MAKOLIN,
DAVID J. NICKEL, CHARLES W. COLMAN,
JEFFREY DEAN LINDSAY,
FUNG-JOU CHEN, and JULIE MARIE BEDNARZ

Appeal 2009-003890
Application 10/029,111
Technology Center 3700

Decided:[1] July 22, 2009

Before ERIC GRIMES, LORA M. GREEN, and
RICHARD M. LEBOVITZ, *Administrative Patent Judges.*

LEBOVITZ, *Administrative Patent Judge.*

DECISION ON APPEAL

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[1] The two-month time period for filing an appeal or commencing a civil action, as provided for in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

This is a decision on the Patent Applicants' appeal from the Patent Examiner's rejection of claims 1-47. Jurisdiction for this appeal is under 35 U.S.C. § 6(b). We affirm.

Statement of the Case

The claims are directed to a textured airlaid fibrous web with peaks and valleys. According to the Specification, the web has improved absorbent and wicking properties. (Spec. 2: 4-7.) The textured web is characterized in the Specification as having increased surface area in comparison to planar webs and therefore more surface area for contact with liquids. (*Id.* at 2: 7-10.)

Claims 1-47 stand rejected by the Examiner under 35 U.S.C. § 103(a) as obvious over Chen[2] (WO 98/42289, published Oct. 1, 1998) (Ans.[3] 5-6).

Claim 1 is representative and reads as follows

> 1. A textured airlaid fibrous web comprising natural fibers, synthetic fibers, or mixtures thereof, said airlaid web being formed on a three-dimensional fabric under sufficient force to cause the web to conform to the surface of the fabric, the textured web including a repeating pattern of peaks and valleys, the textured web having a height that is at least 25% greater than the average caliper of the web, the airlaid web being bonded together, wherein the peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys.

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[2] The claims had been rejected over Chen et al., U.S. Pat. No. 5,990,377, but the Examiner dropped the rejection in the Answer and made a new ground of rejection over Chen's WO 98/42289. Appellants stated that "for the purposes of this Appeal, Appellant's arguments are germane to both" the U.S. Patent and the WO. (Reply Br. 2.)

[3] "Ans." is the Examiner's Answer with a mail date of Aug. 21, 2008.

Statement of the Issues

Issue 1

The Examiner contends that basesheet 1 shown in Chen's Figure 1 "comprises the same material and the same percentage of composition for the peaks and valleys" (Ans. 6), and therefore meets the limitation of claim 1 that the "peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys."

Appellants contend that Chen explicitly states the depressed ("valleys") regions should have significantly lower amounts of hydrophobic material than the elevated regions ("peaks") of Chen's absorbent web in order to achieve its stated goals. (Reply Br. 4-5.) Appellants argue:

> In contrast, all of the pending claims of Appellants' application call for the peaks and valley to have the same percentage of composition of material in their make up. All of Appellants' pending claims call for a web that performs and operates differently then that in Chen et al. because they do not call for a web in which a "significantly" lower amount of hydrophobic amount may be present in the valleys while a greater amount of hydrophobic matter is present in the peaks.

(Reply Br. 5.)

The issue is whether Appellants have established the Examiner erred in finding that Chen meets the limitation of claim 1 that the "peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys."

Issue 2

The Examiner contends that the claimed limitation that "the textured web" have "a height that is at least 25% greater than the average caliper of the web" would have been obvious to persons of ordinary skill in the art because where "the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." (Ans. 6.)

Appellants contend that the Examiner erred because there is no teaching or suggestion of modifying Chen to have produced a web with the claimed height and caliper (Reply Br. 6-7).

The issue is whether Appellants have established that the Examiner erred in concluding that the claimed limitation of a textured web having "a height that is at least 25% greater than the average caliper of the web" would have been obvious to persons of ordinary skill in the art in view of Chen.

Principles of Law

> The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . These cases have consistently held that in such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range.

In re Woodruff, 919 F.2d 1575, 1578 (1990).

Dimensional limitations recited in a claim to a device useful for drying ink on paper were not disclosed in the prior art, but were held obvious because the device did not perform differently than the prior art device and that "structural differences over the prior art" did not "result in

differences in performance over the prior art." *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1345-1346 (Fed. Cir. 1984).

Claim interpretation

Claim 1 is to a "textured airlaid fibrous web comprising natural fibers, synthetic fibers, or mixtures thereof" which is "formed on a three-dimensional fabric under sufficient force to cause the web to conform to the surface of the fabric." The textured web includes "a repeating pattern of peaks and valleys." The web has an average height which is at least 25% greater than the web caliper (i.e., thickness). The "peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys."

The recitation in the claim that the "fibrous web" is "formed on a three-dimensional fabric under sufficient force to cause the web to conform to the surface of the fabric" is a product-by-process limitation that describes how the web is formed. We do not interpret this limitation to further define or describe the web apart from the structural limitations specifically recited in the claim.

Findings of Fact

The Chen International Published Application (WO 98/42289)

1. "Absorbent articles are typically used in contact with skin." (Chen, at 1.)

2. According to Chen, in "virtually every case, it is desired that the absorbent article . . . keep liquids off the skin to provide a clean, dry feel and to reduce skin health problems" (Chen, at 1).

3. "While the use of hydrophobic nonwoven fabrics [in absorbent articles] may have resulted in improved dry feel, the hydrophobic material hinders wicking into the absorbent core," reducing absorbent capacity and liquid permeability. (*Id.*)

4. Another approach described by Chen "is to use an apertured plastic film of hydrophobic polymer or other materials [on top of an absorbent material]. The hydrophobic cover material repels many body fluids, while the apertures allow wicking away from the cover into the absorbent material beneath." (Chen, at 2.)

5. In its Summary of the Invention, Chen describes composite, resilient topsheet materials for use in absorbent articles.

6. The materials are made from "hydrophobic agents or materials" deposited "on relatively elevated portions of one surface of a three-dimensional" fibrous web "comprising intrinsically hydrophilic fibers" (Chen, at 3).

7. The composite provides the "clean feel" characteristic of hydrophobic topsheet materials while providing for rapid depthwise transport of liquid through the topsheet into the absorbent core comprising the hydrophilic fibers. (Chen, at 2.)

8. Figure 13, reproduced below, shows a preferred embodiment with hydrophobic fibers deposited on absorbent material.

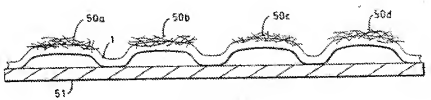

FIG. 13

As shown in Figure 13, absorbent material 51 is in contact with a hydrophilic basesheet 1. (Chen, at 49-50.) Hydrophobic fibers 50a-50d are "attached preferentially to the elevated regions of the upper surface of the basesheet such that less than 80%, preferably less than 50%, and more preferably less than about 25% of the surface area of said basesheet is covered by the attached synthetic fibers." (Chen, at 49.)

9. Chen teaches that its absorbent web "having a dry feel when wet" comprises a hydrophilic basesheet "having elevated and depressed regions" and "hydrophobic matter deposited preferentially on the elevated regions of the upper surface of said basesheet." (Chen, at 9; *see also* Chen, at 11.)

10. Chen teaches that the elevated regions can have a height relative to the basesheet "of about 0.1 mm or greater, preferably about 0.2 mm or greater, more preferably about 0.3 mm or greater, and most preferably from about 0.25 to about 0.6 mm." (Chen, at 11.)

11. Chen teaches absorbent paper thickness as a parameter of paper permeability. (Chen, at 29-34 & 35.) Chen also describes preferred dimensions of the thickness of hydrophobic deposits relative to the hydrophilic basesheet. (*Id.* at 35-36.)

Analysis

Issue 1

Claim 1 is to a "textured airlaid fibrous web." The claim requires that the "peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys."

The Examiner found that the claimed limitation was met by Chen. According to the Examiner, Chen's Figure 13 shows a basesheet material with elevated and depressed regions (FF8-9) which correspond to the peaks and valleys of the claimed web. The Examiner also found that the material – shown as 1 in Figure 13 (FF8) – has the same composition of material in the peaks and valleys and therefore satisfied the claim limitation. The Examiner acknowledged that the peaks in Chen comprise additional hydrophobic material (FF6 & 8-10), but contends that the "comprising" language recited in the independent claims "is inclusive or open-ended and does not exclude additional unrecited elements, compositional components, or steps." (Ans. 13.)

Appellants contend that the Examiner erred because the peaks and valleys described in Chen have different amounts of hydrophobic material and therefore do not meet the claim limitation.

The Examiner did not err. It is correct that Chen teaches basesheet 1 to comprise hydrophobic materials deposited or attached preferentially to its elevated or peak regions. However, the presence of these additional materials do not alter the characteristics of the basesheet material, itself, which the Examiner found, and Appellants do not challenge, has the same "percentage of composition of material making up the peaks" as "the percentage of composition of material making up the valleys." Claim 1 is to drawn to a web, alone, and the Examiner correctly determined that Chen's basesheet 1 – a clearly identifiable element of Figure 13 – met all the limitations of the claimed web.

As properly recognized by the Examiner, the claim utilizes the term "comprising" and is therefore open to other elements – including the

hydrophobic materials additionally described by Chen as deposited on the web (FF6-8). However, it is the basesheet element alone which meets the disputed claim limitation.

It appears that Appellants have interpreted claim 1 to read on the web-forming three-dimensional fabric *and* the textured fibrous web. They therefore argue that Chen describes a product with less hydrophobic material in the valleys than in the peaks. However, this description is only true of the composite formed from the layers of hydrophobic (50a-d) and hydrophilic materials (1) – for example, as illustrated in Figure 13. Claim 1, on the other hand, reads only on one layer – which in this case corresponds to the basesheet 1.

Issue 2

Claim 1 also recites that "the textured web ha[s] a height that is at least 25% greater than the average caliper of the web."

The Examiner concluded:

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the claimed relationship between the web height and web caliper since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

(Ans. 6.)

A prima facie case of obviousness typically exists when the differences between the prior art and the claimed invention is a range or dimension. *Woodruff*, 919 F.2d at 1578; *Gardner*, 725 F.2d at 1345-1346. It is well-established that in such cases obviousness can be rebutted by secondary considerations, such as a showing of "new and unexpected results

relative to the prior art." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004).

Appellants contend that the relationship between web height and average caliper of the web would not have been obvious. (Reply Br. 6.) They assert: "In order to render the presently pending claims obvious," Chen "must teach or suggest to one having ordinary skill in the art the desirability of modifying Chen et al. so as to achieve the structure set forth in Appellants' pending claims." (*Id.* at 6-7.)

This argument is not persuasive. Chen specifically teaches preferred heights of the basesheet 1, preferred thicknesses of the hydrophobic deposits 50a-d and the basesheet 1, and that thickness is a known parameter of paper permeability (FF10 & 11). Therefore, both height and thickness of the basesheet were recognized as parameters by Chen to achieve its goal of a "dry feel" material. While the claimed limitation of a web with an average height at least 25% greater than the web caliper is not expressly described by Chen, Chen recognizes each of these dimensions as parameters controlling paper permeability (FF9-11). Thus, absent a showing that the claimed limitation produces unexpected results or otherwise is critical to the claimed invention, the claimed limitation would have been considered obvious by a person of ordinary skill in the art, requiring nothing more than routine optimization of parameters explicitly identified by Chen.

Claims 28 and 47

Independent claims 28 and 47 recite the same limitations as in claim 1. Appellants have not argued any of the additional limitations recited in

these claims, but have relied on the same argument as for claim 1. We therefore affirm their rejection for the same reasons.

Conclusions of Law

The Examiner did not err in finding that Chen's basesheet meets the limitation of claim 1 that the "peaks are made of the same material as the valleys such that the percentage of composition of material making up the peaks is the same as the percentage of composition of material making up the valleys."

The Examiner did not err in concluding that the claimed limitation of a textured web having "a height that is at least 25% greater than the average caliper of the web" would have been obvious to persons of ordinary skill in the art in view of Chen.

Summary

The obviousness rejection of claims 1, 28, and 47 is affirmed. Because separate arguments for the patentability of claims 2-27 and 29-46 were not provided, these claims fall with claims 1, 28, and 47. *See* 37 C.F.R § 41.37(c)(1)(vii). Therefore, the obviousness rejection of claims 2-27 and 29-46 is also affirmed.

Time Period for Response

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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